

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference IP/P7036 / WOD	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/GB 03/ 03741	International filing date (day/month/year) 01/09/2003	(Earliest) Priority Date (day/month/year) 03/09/2002
Applicant QINETIQ LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

MAXIMUM LIKELIHOOD BASED INTERFERENCE CANCELLATION FOR SPACE-TIME CODED SIGNALS

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

6
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

National Application No

PCT/GB 03/03741

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04L1/06 H04L1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>TAO M ET AL: "Low complexity post-ordered iterative decoding for generalized layered space time coding systems"</p> <p>ICC 2001. 2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS. CONFERENCE RECORD. HELSINKY, FINLAND, JUNE 11 - 14, 2001, IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, NEW YORK, NY: IEEE, US, vol. 1 OF 10, 11 June 2001 (2001-06-11), pages 1137-1141, XP010553506</p> <p>ISBN: 0-7803-7097-1</p> <p>page 1138, right-hand column, line 23 - line 41</p> <p>page 1139, left-hand column, line 1 - line 17; figure 2</p> <p style="text-align: center;">----</p> <p style="text-align: center;">-/--</p>	<p>1,2, 6-13, 15-27</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

15 December 2003

Date of mailing of the international search report

29/12/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Papantoniou, A

INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 146 661 A (MITSUBISHI ELECTRIC CORP) 17 October 2001 (2001-10-17) page 2, paragraph 5 page 3, paragraphs 9-11,14 page 10, paragraph 64 - paragraph 68 page 13, paragraph 90 -page 14, paragraph 100; figures 2,12,13 -----	1,11,17, 18,23-27
A	FOSCHINI G J ET AL: "SIMPLIFIED PROCESSING FOR HIGH SPECTRAL EFFICIENCY WIRELESS COMMUNICATION EFFICIENCY WIRELESS COMMUNICATION EMPLOYING MULTI- ELEMENT ARRAYS" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, IEEE INC. NEW YORK, US, vol. 17, no. 11, November 1999 (1999-11), pages 1841-1852, XP000880701 ISSN: 0733-8716 page 1843, left-hand column, line 38 -right-hand column, line 19 page 1843, right-hand column, line 40 -page 1844, left-hand column, line 18 figures 2,4 -----	1,11,17, 18,23-27
A	WOLNIANSKY P W ET AL: "V-BLAST: an architecture for realizing very high data rates over the rich-scattering wireless channel" SIGNALS, SYSTEMS, AND ELECTRONICS, 1998. ISSSE 98. 1998 URSI INTERNATIONAL SYMPOSIUM ON PISA, ITALY 29 SEPT.-2 OCT. 1998, NEW YORK, NY, USA,IEEE, US, 29 September 1998 (1998-09-29), pages 295-300, XP010316748 ISBN: 0-7803-4900-8 page 296, right-hand column, line 7 -page 297, left-hand column, line 27 page 297, right-hand column, line 6 -page 298, left-hand column, line 15 -----	1,11,17, 18,23-27

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/03741

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1146661	A	17-10-2001	CA 2359077 A1 17-05-2001
			EP 1146661 A1 17-10-2001
			US 2001046270 A1 29-11-2001
			CN 1336046 T 13-02-2002
			WO 0135549 A1 17-05-2001

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B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04L				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX				
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.				
* Special categories of cited documents : <table border="0"> <tr> <td> *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed </td> <td> *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family </td> </tr> </table>			*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family			
Date of the actual completion of the international search 15 December 2003		Date of mailing of the international search report 29/12/2003		
Name and mailing address of the ISA European Patent Office, P.B. 5618 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Papantoniou, A		

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